BIDDER'S PACKAGE

CASCADE COUNTY

SOLICITATION FOR BIDS FOR TWO (2) OR MORE 2015 OR NEWER ALL-WHEEL DRIVE MOTOR GRADER(S) (Preapproved Models: Caterpillar 160M3AWD, John Deere 872GP, or Equivalent)

OCTOBER 2015

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INVITATION TO BIDDERS

NOTICE IS HEREBY GIVEN, that the Cascade County Board of Commissioners will receive sealed bids for the purchase over time of two (2) or more 2015, or newer, diesel powered, articulated frame all-wheel drive motor grader(s). Specifications for the equipment may be obtained by contacting Brian K. Clifton, Director, Cascade County Public Works, 279 Vaughn S. Frontage Road, Great Falls, MT 59404; Phone (406) 454-6920.

Bids will be opened on the 2nd day of October, 2015, at the time of 11:00 o'clock a.m. in the office of the Board of Commissioners, in the Cascade County Courthouse Annex, Room 111, Great Falls, Montana.

Each bid must be accompanied by a Certified Check, Cashier's Check, or Bid bond payable to Cascade County in the amount of ten percent (10%) of the total amount of the bid for the motor graders without deduction for the value of the possible trade in equipment. The successful bidder shall forfeit to Cascade County their bid security if they fail or refuse to enter into a contract within the time specified. Bid security of unsuccessful bidders shall be returned upon acceptance of the successful bid.

All bids shall remain effective for a period of thirty (30) days from the date of opening. Cascade County reserves the right to consider or reject any and all bids, and further to waive any defects or irregularities. All bidders must use the bid form supplied with the specifications. A contract will be awarded to the lowest and most responsible bidder.

All bidders are expected to be aware of and to abide by all state and federal statues, rules, and regulations governing the solicitation and acceptance of public contracts, including any such statute, rule or regulation relating to non-discrimination.

The Board of Commissioners reserves the right to reject any or all bids, to waive irregularities, or to accept any bid they deem to be in the best interest of Cascade County.

DATED this 16th day of September, 2015

Jane Weber, Chairman
Cascade County Board of Commissioners

(Publish September 20th and September 27th)

GENERAL INFORMATION FOR BIDDERS

- 1. <u>Bid Opening</u>. The Cascade County Commissioners will receive bids from persons or entities capable of supplying two (2) or more 2015, diesel powered, articulated frame all-wheel drive motor graders as described in the specifications included herein. Bids shall be opened and read aloud at a meeting of the Commissioners to take place on the 2nd day of October, 2015, at the time of 11:00 o'clock a.m. at the Commissioner's Office, in the Cascade County Courthouse Annex Room 111. All bids must be received no later than the start of the meeting.
- 2. <u>Notice</u>. Notice is being published in the Great Falls Tribune, (a copy of the notice is included with this package) with publication dates of September 20th and September 27th. All interested and capable persons or entities are invited to submit bids on the bid form included with this package.
- 3. <u>Bid Security</u>. Pursuant to Section 18-1-201, Montana Code Annotated, the Board of Commissioners must require a bid security. Each bid must be accompanied by security in a form specified below, and in an amount equal to ten percent (10%) of the bid of the bidder, and payable to Cascade County.

According to the above cited statute, bid security is required "as a condition precedent to considering any such bids, as evidence of good faith on the part of the bidder, and as indemnity for the benefit of such public authority against the failure or refusal of any bidder to enter into any written contract that may be awarded upon and following acceptance of (a) bid..." Thus, if a bidder is selected and requested to enter into the contract, and the bidder refuses to enter into the contract, the bid security shall be forfeited in its entirety to Cascade County.

The form of the bid security is specified in Section 18-1202, Montana Code Annotated , as follows;

- "(1) In all cases under 18-1202 (1), the bidder, offeror, or tenderer shall accompany and bid with either:
 - (a) lawful money of the United States;
- (b) a cashier's check, certified check, bank money order, or bank draft, in any case drawn and issued by a federally chartered or state-chartered bank insured by the federal deposit insurance corporation; or
- (c) a bid bond, guaranty bond, or surety bond executed by a surety corporation authorized to do business in the state of Montana. If a financial guaranty bond or surety bond is provided to secure the purchase of indebtedness, the long-term indebtedness of the company

executing the financial guaranty bond or surety bond must carry an investment grade rating of one or more nationally recognized independent rating agencies.

(2) The money or, in lieu of money, the bank instruments or bid bonds, financial guaranty bonds, or surety bonds must be payable directly to the public authority soliciting or advertising for bids."

The successful bidder's bid security shall be returned upon the parties entering into a contract. Also, at such time, the bid security of unsuccessful bidders shall be returned.

4. <u>Contract</u>. The successful bidder will be expected to enter into a contract with Cascade County. The form of the contract is included within this package. However, Cascade County reserves the right to make changes to the contract which do not affect the substantial rights of the parties.

All bids shall remain effective for a period of thirty (30) days from the date of opening at some time during said thirty (30) day period, the successful bidder will be expected to enter into the contract.

- 5. <u>Waiver of irregularities and informalities</u>. Cascade County reserves the right to waive any irregularity or informality in any bid. Further, Cascade County reserves the right to reject any and all bids for any reason.
- 6. <u>Basis of Award</u>. Shall be dependent on the most responsible bid submitted. Consideration will be given, but is not limited to, cash flow, purchase price, delivery date, equipment service guarantees, parts and service availability, parts and service facilities locations, analysis and comparison of equipment specification details, and past experience of Cascade County with similar or related equipment.
- 7. Resident Bidder Preference. Pursuant to Section 18-1-102, Montana Code Annotated, Cascade County will award the contract "to the lowest responsible bidder without regard to residency. However, a resident must be allowed a preference on a contract against the bid of a nonresident if the state or country of the nonresident enforces a preference for residents. The preference must be equal to the preference given in the other state or country."

According to Section 18-1-113, Montana Code Annotated, any bidder seeking a preference shall be required to file, along with the bid, an affidavit, specifying in detail, the basis upon which the bidder claims a preference.

8. <u>Non-Discrimination</u>. The successful bidder shall be expected to abide by a all provisions of state and federal law regarding discrimination. One such provision, in Montana law is Section 49-3-207, Montana Code Annotated, which states <u>Non-Discrimination</u>; "(e)very state or local contract or subcontract for construction of public buildings or for other public work or for goods or services must contain a provision that all hiring must be on the basis of merit and qualifications, and a provision that there may not be discrimination on the basis or race, color

religion, creed, political ideas, sex, age, marital status, physical or mental disability, or national origin by the persons performing the contract.

- 9. <u>Laws and Regulations</u>. Each bidder is expected to be familiar with and abide by all laws of the federal, state and local governments regarding their obligations in bidding and performing public contracts.
- 10. Trade-in. Each bidder will be expected to state a value for two pieces of equipment that Cascade County may wish to trade in, and which will reduce the purchase price. The two items of equipment are used 2008 CAT 140M AWD Motor Grader, Serial # B9M00247, and 2008 CAT 160M Serial # B9L00373. The value stated by the bidder for each piece of equipment must be stated separately on the Bid Form. In accepting the bid from the successful bidder, Cascade County may elect to trade any, all or none of the used equipment, and if Cascade County elects to trade in any such item or items, the successful bidder shall receive such equipment at the time of delivery of the motor grades. The successful bidder will be responsible for transporting any such equipment from Cascade County. Any items to be traded in shall be accepted by the bidder "as is", with no warranties and/or representations whatsoever. Upon reasonable advance notice, any bidder may inspect any of the items proposed for trade-in by contacting the Public Works Director, Brian K. Clifton. The transfer of any such item of equipment shall be by bill of sale delivered to the successful bidder at the time of delivery of the motor graders
- 11. <u>Warranty</u>. In order to guarantee the cost of repairs and minimize downtime for Cascade County, all bidders shall include with their bid a total machine warranty, for a period of four (4) years or seven thousand five hundred (4,000) hours of operation from date of delivery, whichever occurs first.
- 12. <u>Questions</u>. Should any bidder have any questions about the specifications, or any provision or other information contained in the bidder's package, they may direct inquires to Brian K. Clifton, Director, Cascade County Public Works, 279 Vaughn S. Frontage Road, Great Falls, MT 59404; phone 406-454-6920. Any clarification information, or any changes made to any information in the bidder's package shall be provided to all potential bidders who have obtained a copy of the specifications from Cascade County.

BIDDER'S SUBMISSION REQUIREMENTS

Sealed bids shall be submitted by each bidder. Sealed bids must be received by Cascade County no later than 11:00 o'clock a.m., October 2nd, 2015, which is the time of commencement of the meeting to open bids. Bidders are expected to abide by the following requirements.

Each bid and accompanying documents shall be submitted in a standard 81/2 x 12, or larger manila envelope. The manila envelope shall be sealed, and the following information shall be written or typed on the outside of the envelope: (1) the name, address, and telephone number of the bidder: (2) the words "Bid to Cascade County for Motor Grader(s)".

The following documents shall be included in the manila envelope, in the following order:

- 1. <u>Bid Forms.</u> The Bid Form shall be completely filled out and signed by an authorized agent of the bidding company.
- Bid Bond. A bid bond must be enclosed and must be in the form as specified in this package.
 The bid bond must be in the amount bid for the motor graders, without deduction for the value bid for any of the proposed trade-in items.
- 3. <u>Warranty Information</u>. All warranty information for the equipment must be included.
- 4. <u>Delivery Date.</u> Bidder must specify delivery date. Delivery shall be F.O.B. Cascade County Shop at Great Falls, Montana. *Time is of Essence*
- 5. Other Information. Bidders are encouraged, but not required, to include other information about their business and any other documents that highlight the benefits of the machine model they are bidding. (Fuel burn guarantees, Parts availability guarantees, Parts pricing comparisons, Etc.)

BID FORM

The undersigned Bidder hereby covenants and agrees to provide two (2) or more, 2015, diesel powered, articulated frame all-wheel drive motor graders, as described in the Specifications, for the price stated. The bidder understands that this bid is effective for thirty (30) days from the date of opening. All lines on the Bid Form *must* be completed.

Motor Grader Manufa	acturer	Year & Model	
	without trade) including warran ty Shop at Great Falls, Montan	•	\$
Less trade in for: Used 2008 C	AT 140M AWD Motor Grader	, Serial # B9M0024	7 \$
Used 2008 CA	AT 160M Motor Grader, Serial	l # B9L00373	\$
5 Yr / 5,000 Hr total r	machine warranty		\$
6 Yr / 6,000 Hr total r	machine warranty		\$
7 Yr / 7,000 Hr total r	machine warranty		\$
PROPOSED TRADE-IN, AN AMOUNT, OR AMOUNTS	TY RESERVES THE RIGHT TO KEEP ND IN SUCH EVENT, THE BALANCE . THE BID BOND SUBMITTED WITH MOTOR GRADER, AND MAY NOT BE	ANY OR ALL OF THE AMOUNT WILL BE ING THIS FORM SHALL BE REBUCED FOR THE V	CRESED IN A LIKE E BASED ON THE FULL
Bidder's Address			
Bidder's Phone No.			
	Bidder's Sign	nature	

AGREEMENT

THIS AGREEMENT is made this	day of	,2015, by
and between Cascade County, and		
hereinafter referred to as the seller, and is meant by	to describe the terms	and conditions for the sale
seller and the purchase over time by Cascade Co	unty of	diesel nowered
articulated frame all-wheel drive motor graders a	s described in the spe	ecifications.
THE PARTIES COVENANT A	AND AGREE AS FO	LLOWS:
1. <u>Item Purchased.</u> The seller agrees to	to sell and provide, a	nd Cascade County agrees
purchase the certain motor graders wit \$	h associated equipme	ent, for the sale price of
The specific equipment to be purchase follows:	d over time is more s	specifically described as
2. Payment Terms. Cascade County s	shall make annual pa	yments for the equipment
in		
the amount of \$	ubsequent payments and The seller shall be rewith the claim form has	shall be due annually on or equired annually to submit a
1		
•	quipment to Cas ry is not made by suc uidated damages in t	scade County no later than the date, the parties hereby he amount of \$50.00 for
waive its receipt of liquidated damages.	1	
4. <u>Contract Documents.</u> The parties un documents which are an integral part of this cont		

herein: to include all of the documents which are part of the Bidder's Package.

- 5. <u>Insurance.</u> Delivery shall be F.O.B. Cascade County Shop at Great Falls, Montana. The seller shall be responsible for insuring the motor graders until they are both delivered and off- loaded to Cascade County. Cascade County shall not be responsible for loss until such time, and then upon unloading the equipment the obligation for insurance shall be the responsibility of Cascade County.
- 6. <u>Venue for Disputes.</u> Should any dispute arise regarding this contract, proper venue shall be in the District Court of the Eighth Judicial District, in and for Cascade County, Montana.

7. <u>l</u> successors, ar			bind and inure to the benefit of the heirs,
Da	ated this	day of	,2015.
		CASC	ADE COUNTY:
		Chairm	an
ATTEST:			
Rina Fontana	Moore, Clerk	and Recorder	

Successful Bidder

SPECIFICATIONS

Please describe all warranties, guarantees, and extended coverage's of the motor graders, including an extended service plan.

Pursuant to the Invitation to Bidders, requesting bids for two (2) or more, 2015, diesel powered, articulated frame, tandem drive motor graders, the following minimum requirements, or substantially similar equivalents, shall be met:

- A. Motor grader(s) shall meet **OSHA** requirements and specifications on the date of the bid opening.
- B. No bid will be considered unless accompanied by a bid bond, bank draft, money order, or certified or cashiers check, in the amount of not less than ten percent (10%) of the total amount for the total number of machines bid, as further described in paragraph 3 of the General Information for Bidders in the Bidder's Package.
- C. Delivery shall be F.O.B. Cascade County Shop at Great Falls, Montana.
- D. Upon delivery, the successful bidder shall include all operating, service, parts and technical repair manuals.
- E. Bidder must specify delivery date.
- F. All machines shall be the current advertised and produced model, with all the latest changes and features offered as standard, whether or not called for in the bid specifications.

PLEASE INDICATE IN THE FOLLOWING IF THE MACHINE OFFERED CAN MEET THE FOLLOWING MINIMUM DESIRED CONFIGURATIONS. ANY "NO" MUST BE CLARIFIED ON A SEPARATE SHEET IF THE BIDDER DESIRES SUPPORT FOR AND ALTERNATE OR SUBSSTANTIALLY SIMILAR SPECIFICATION.

		BASIC SPECIFICATIONS
Y	N	Machine shall be designed and built by the manufacturer.
	N	Base Machine Weight shall not be less than 40,908 lbs (18,555 kg). Weight shall include standard machine configuration, lubricants, coolants, full fuel tank and operator
		of 200 lbs (91 kg).
Υ	N	Machine height to top of the cab shall not exceed 130 in (3,308 mm).
	N	Machine length from the front outside edge tire to end of tow hitch shall not be less
		than 351 in (8,912 mm).
Y	N	Machine Wheel Base (distance from front axle to mid tandem) shall not be less than 241 in (6123 mm).
Υ	N	The rear frame shall have two box section channels with an integrated bumper as
		standard.
Y	N	A toolbox shall be provided.
Y	N	Machine shall have vandal protection standard including locks for cab doors, engine
		side shields (4), top tank radiator access door, engine coolant surge tank, hydraulic
		reservoir cap, fuel tank cap and tool box.
Y	N	Machine length from counterweight to ripper shall not exceed 399 in (10,136 mm).
		ENOINE
V		ENGINE
	N	Engine shall be designed and built by the manufacturer.
	N	Engine shall be a turbo-charged, direct injection, four stroke, 6-cylinder diesel engine.
	N	Engine shall be certified EPA Tier 4 Final and European Union Stage IV
	N	Engine shall be electronically controlled for more efficient fuel injection and fuel burn.
	N	Engine shall achieve rated power requirement with engine displacement not less than 9.3L (568 in3) for better performance and fuel economy.
Y	N	Engine shall develop as standard while AWD is ON a rated net flywheel of at least 241 HP (180 kW) in 1st gear, 262 HP (195 kW) in 2nd gear, 267 HP (199 kW) in 3rd gear,
		272 HP (203 kW) in 4th gear, and 293 HP (219 kW) in gears 5 through 8.
Υ	N	Engine will increase its low idle speed to 1,000 rpm when the battery voltage is below
'	_ ''	24.5 volts for more than 5 minutes to ensure adequate system voltage and battery
		reliability.
Υ	N	Altitude deration will not occur at altitudes less than 10,000 ft (3050 m). The deration
		rate above 10,000 ft (3050 m) shall be 1.5% per 1000 ft (305 m).
Y	N	Peak engine power shall not be achieved at an engine speed greater than 1800 rpm.
	N	
	N	Engine will have an minimum torque rise of 47% from 2000 rpm to peak torque
		following SAE J1349 (net power with max fan).
Υ	N	Engine enclosure and daily service points shall be accessible from ground level and
		grouped on the left side of the machine.
Y	N	Engine fan shall automatically adjust fan speed via a variable hydraulic fan pump to
		meet engine cooling requirements thus reducing demand on the engine, putting more
		horsepower to the ground, reducing noise, improving fuel economy, and reducing heat
Y	N	Engine shall allow for at least 500 hours of operation between oil changes.
	N	Precleaner designed to handle large debris fields, including snow shall be provided.
Y	N	Engine compartment doors shall be lockable without the use of external locks.
Y	N	Engine shall automatically lower engine torque and alert the operator if critical
		conditions are detected.
Y	N	Engine shall have an air-to-air after cooler for superior engine performance.

Y	_ N	Engine oil cooler shall be a water to oil shell and tube cooler system.
Y	_ N	Machine shall have a 12000 hour coolant interval from factory.
Y	_ N	The cooling package air intake shall have 2.8 mm perforated inlet screen.
Y	_ N	The charged air cooler (ATAAC) shall have 6 fins per inch.
Y	_ N	Economy mode shall be provided directly from factory to increase net efficiency.
	_ N	Economy mode shall be able to be enabled and disabled by the operator through the onboard Message Display.
Υ	_ N	Economy mode shall be lockable via onboard programmable password protection.
	_ N	DEF tank reservoir shall have a heater to thaw DEF fluid.
	_ N	DEF lines should be heated to prevent freezing during extremely cold ambient
	•	conditions.
Y	_ N	An engine coolant heater shall be provided to assist in cold weather starting.
Y	_ N	Ether starting aid shall be provided and must automatically meter ether injection to prevent engine damage.
		POWERTRAIN/TRANSMISSION
Υ	_ N	Transmission shall be designed and built by the machine manufacturer.
	_ N	Transmission shall be a direct drive, power shift, countershaft type.
	_ N	Transmission shall be equipped with built-in self-diagnostic capability.
	_ N	Transmission shall have no less than 8 forward speeds and 6 reverse speeds (for
		added safety).
Y	_ N	Transmission shall have 5 working gears between 0-10.8 mph (0-17.4 km/h), for dirt applications.
Υ	_ N	Transmission shall be isolated/resilient mounted to reduce sound and vibration.
Υ	_ N	A controlled throttle shifting system shall be standard to smooth directional gear
		changes without use of the inching pedal.
Y	_ N	Electronic Throttle Control (cruise control) shall be standard and shall be controlled by
		a push button, located on a 3-axis joystick as standard on the right joystick control for
		resuming and decreasing throttle set.
Y	_ N	Electronic Throttle Control modes, set and accelerate functions, shall be located on the
V	NI	right control column for easy access.
ĭ	_ N	A load compensating system for the transmission shall be standard to ensure consistent shift quality in all applications.
Υ	_ N	Automatic Differential Lock/Unlock feature shall be standard and shall not have speed,
•	•	shuttle shifting or tandem spinning restrictions for engaging/disengaging. System must
		be load-sensing for optimal performance
Y	_ N	Automatic mode shall not be overridden via manual intervention for optimal
		performance and to prevent unintended differential engagement
	_ N	Differential Lock/Unlock shall be electro-hydraulically controlled, as a standard feature.
	_ N	Differential Lock/Unlock shall be a multi-disc design.
Y	_ N	Final drive shall be a planetary design.
Y	_ N	The rear axle shall be a bolt-on modular design offering easy access to differential
		components, improving serviceability and contamination control.
	_ N	in² (11,812cm²).
Y	_ N	Diameter at the output end of the transmission shaft shall be no less than 2.29 in (58.1
		mm).
Y	_ N	Machine shall be equipped with an electronic inching pedal for improved modulation
V	N.I.	and machine control.
Υ	_ N	Machine shall be equipped with electronic over-speed protection to prevent the engine
V	_ N	and transmission from over speeding, as a standard feature. Machine shall have no drive shafts that cross over the articulation hitch.
ī	_ N	An autoshift transmission option shall be provided on all forward and reverse gears.

		STEERING & IMPLEMENT CONTROLS
Y	_ N	Steering wheel shall not be required to operate machine.
Y	_ N	Joystick Steering capabilities shall be ISO 5010:1992.
	_ N	Machine shall employ a friction pack style steering mechanism (not spring-loaded), utilizing the follow steer concept.
Y	_ N	The left 3-axis joystick shall control wheel lean with individual left and right wheel lean buttons as standard.
Y	_ N	Primary steering shall be achieved via a left-hand, multifunction, 3-axis joystick as standard, using an intuitive steering control system that automatically adjusts steering sensitivity as machine ground speed increases.
Y	_ N	Articulation to the right or left shall be achieved by a multifunction, 3-axis left joystick with the twist of such to the right or left by the left-hand, multifunction, 3-axis joystick.
Y	_ N	An articulation return-to-center button on the left-hand, multifunction, 3-axis joystick shall return the machine to a straight frame position from ANY articulation angle with the touch of a single button.
Υ	_ N	The right 3 axis joystick shall primarily control the Drawbar, Circle, and Moldboard.
Y	_ N	Machine, Drawbar, Circle, and Moldboard shall be control shall be achieved via a right hand multifunction, 3-axis, joystick, including moldboard slide and tip, drawbar center shift through a 4 way hat switch and circle turn by a left or right twist intuitively.
	_ N	Blade lift cylinders shall be individually controlled by the multifunction, 3 axis joysticks; Lift and drop of cylinders shall be achieved by the forward and back motion of the respective joystick. Forward (left joystick) lowers left lift cylinder, back (left joystick) raises the left lift cylinder, forward (right joystick) lowers the right right lift cylinder, back (right joystick) raises the right lift cylinder.
Y	_ N	Joystick controls shall be mounted to electronically adjustable pedestals, which are hard mounted to the cab floor, independent of the operator seat.
Y	_ N	Secondary steering shall have a primary and secondary power supply in the event the primary source is lost.
Y	_ N	Transmission direction control shall be a 3-position rocker switch for selecting forward, neutral, and reverse incorporated into a single, 3-axis, multi-function, left-hand joystick control.
Y	_ N	Transmission gear selection shall be controlled by dual push buttons for up shifting and downshifting and shall be incorporated into a single, 3-axis, multi-function, left-hand joystick control.
Y	_ N	Manual Differential Lock/Unlock shall be operator controlled, via a push-button, located on a single, 3-axis, multi-function, right-hand joystick control.
	_ N	The machine shall have two redundant articulation sensors.
Y	_ N	Two redundant sensors shall be standard in the steering cylinders (one in each).
Y	_ N	Three redundant sensors shall be provided in the steering joystick for additional safety.
		BRAKES
	_ N	Machine shall have primary and secondary service brakes.
Y	_ N	Entire braking system shall meet all requirements of ISO 3450: 1996.
Y	_ N	Two separate left and right hydraulic brake accumulators shall be standard for safety.
Y	_ N	Parking brake shall be multi-disc, oil-cooled, spring-applied, hydraulically released, sealed, adjustment-free, and integrated into the transmission. Park brake shall not be externally located.
Υ	_ N	Parking brake shall be serviceable without removing the transmission.
	N	Service brakes shall be multi-disc, oil-cooled and completely sealed; they will also provide access to check and determine brake wear without removing or disassembling the brake assembly.

Y	N	Service brake disc surfaces shall be grooved and carry oil between discs and plates with brakes fully applied.
Υ	N	Service brakes shall be hydraulically actuated, utilizing dual independent brake
		circuits.
	N	Brakes shall be continuously pressurized, filtered, oil cooled.
Y	N	Machine shall have individual brake pods for each rear wheel, located at each rear wheel inside the tandem box, independent of tandem chains.
Y	N	Compensation components shall be required at all four tandem brake pods in addition
Υ	N	to the brake wear indicator. Brake line protection, including tandem walkways and hydraulic brake line guarding,
'	'\	shall be required to prevent line damage.
Y	N	
		HYDRAULIC SYSTEM
Υ	N	A standard triple-redundant hydraulic relief system shall protect machine hydraulic
		components.
Y	N	Hydraulic implement pump shall produce between 0 and 55.7 gal/min (210L/min) of oil flow at 1800 RPM.
Y	N	Hydraulics system shall be a closed center, load sensing type with a variable
		displacement, axial piston-type pump.
Y	N	Hydraulic system shall be fully sealed, using Duo-cone and O-ring face seals to
V	N	prevent leaks, contamination, and spillage.
'	IN	The hydraulic tank shall have a baffling system to reduce potential pump cavitation. The maximum hydraulic system pressure shall be no more than 3,500 psi (24,150).
ĭ	IN	kPa).
Υ	N	Implement valves shall be electro-hydraulic, designed and built by the machine
'		manufacturer.
Υ	N	0W Hydraulic Oil shall be provided. No Exception
	N	Implement valves shall be proportional priority pressure compensating for consistent
		response when multi-functioning any combination of implement controls and
		independent of engine speed.
Y	N	Implement pump shall be solely dedicated to implement controls and not shared with
		any other components.
	N	Lock valves shall be integrated into the main implement valve to prevent cylinder drift.
Y	N	The hydraulic stand-by pressure shall be no more than 885 psi (6100 kPa) at 1,800
.,		RPM.
Υ	N	There shall be a provision to install up to 15 modulating hydraulic valves, controlled by
V	N	two multifunction, 3-axis joystick controls and auxiliary controls inside the cab. Two hydraulic valves shall for the snow wing and one hydraulic valve for the front lift
I	IN	group shall be provided.
Υ	N	Left and right blade lift cylinders shall have independent float capability, actuated by
'		two multifunction, 3-axis joystick controls inside the cab, as a standard feature.
Υ	N	A sight gauge will be provided for checking hydraulic reservoir fluid.
	N	Hydraulic oil change service interval shall be no less than 6000 hours with oil sampling
Υ	N	Hydraulic system shall have a separate oil tank solely dedicated to the implement
		pump.
		FRONT AXLE AND TANDEMS
Υ	N	Front axle oscillation shall be no less than 32 degrees total, per side 16 degrees up
		and 16 degrees down.

Y	_ N	Front axle shall be an arched design for maximum ground clearance.
Y	_ N	Wheel spindle shall be a "live" spindle design and rotate inside a sealed (with Duo-
		Cone seals) compartment with lightweight oil for lubrication of the bearings.
Y	_ N	Front spindle shall be heat induction hardened.
Y	_ N	Front wheel spindle bearings shall be a double-tapered design with the larger diameter
		bearing mounted closest to the centerline of the front tire.
	_ N	Front wheel spindle maintenance intervals shall be no less than 2000 hrs.
	_ N	Front wheel steering angle shall be no less than 50.0 degrees left or right.
	_ N	Maximum front wheel lean shall be no less than 18 degrees left or right.
Y	_ N	Machine turning radius shall not exceed 25 ft. 7 in. (7.8 m) using front steering, full articulation and unlocked differential.
Y	_ N	Distance between center of tandem wheels shall be no greater than 60.0 in (1523 mm) for optimum clearance and mobility.
Y	_ N	Tandem drive chain pitch shall not be less than 2.0 in (50.8 mm).
	N	Tandems shall be capable of oscillating 15 degrees front tandem up and 25 degrees
		front tandem down, with full machine articulation and having no interference between tandem wheel and machine structure.
Y	_ N	Electronic and mechanical steering stops located at each wheel and steering cylinder
		relief valves shall be present to prevent steering system damage during normal
		operation.
	_ N	Steering tie rod ends shall be heat induction hardened.
Υ	_ N	Machine shall provide 2 steering cylinders for maximum steering force.
Y	_ N	When equipped with a ripper, the machine shall have a minimum ramp angle of 15.9 degrees.
	_ N	TIRES AND RIMS 17,5R 25 MX XSNO+ 1* MP tires mounted on 14" x 25" multi-piece rims shall be provided. Two (2) spare rear tires (17.5R 25 MX XSNO+ 1*) mounted on multi piece rim assemblies shall be provided.
		OPERATORS STATION
V	_ N	A 42,075 BTU/h (12.3 kW) heater shall have an integral pressurizer and four-speed fan
'	_ IN	along with A/C.
Υ	_ N	Cab shall have angled floor design allowing direct visibility to moldboard.
	N	Seat shall be a cloth-covered suspension seat with 3 in (76 mm) retractable seat belts, with adjustments for fore-aft position, seat height, seat back angle, thigh support, and lumbar support.
Y	_ N	An enclosed cab with ROPS (Rollover Protective Structure) according to ISO 3471: 1986-1997shall be provided.
Y	_ N	Cab doors shall have a hold-open clasp with a ground-level release in addition to a
		release in the cab.
	_ N	Cab shall be isolation-mounted to the front frame section of the machine.
	_ N	Cab shall have fixed front window of laminated glass with intermittent wiper.
	_ N	FOPS (Falling Object Protective Structure) shall be provided according to ISO 3449.
Y	_ N	Machine shall have no less than 17 adjustable vents, positioned to direct air to front windows and operator.
Y	_ N	Radio ready arrangement will include 24V to 12V converter, two speakers, antenna and wiring.
Y	_ N	An instrument cluster shall be provided that includes a speedometer, tachometer,
		coolant temperature, fuel and articulation angle gauge.
Y	_ N	Operator cab fresh air-filter shall be accessible for clean out and replacement, from outside of the cab at ground level.

Y	_ N	A real-time information system shall monitor all system data and alert the operator of any faults through a digital text display. This performance and diagnostic information system shall be programmable for multiple languages.
Y	_ N	Left and right side cab doors shall be provided.
	_ N	Wipers shall be provided on side and rear windows.
	N	Digital machine hour meter shall be provided.
	_ N	An electronic message system shall provide real-time machine performance and
•		diagnostic data.
Y	_ N	The forward visibility shall be continuous and unobstructed glass from roofline to floor
Y	_ N	providing visibility of the blade, heel and toe, back of the cutting edge, and front tires. Access to cab shall be three anti-skid steps.
Y	_ N	Cab shall have cup holder, personal cooler holder/storage compartment for operator's manual, with a molded floor mat.
V	_ N	Window washer fluid bottle refill spout shall be located external of the cab.
	_ N _ N	DEF gauge must be visible to the operator at all times.
		·
	_ N	An auxiliary control pod, with implement float control capability, shall be provided.
Υ	_ N	Auxiliary controls shall be provided for control of attachment implements and/or work tools and shall be programmable via computer software.
Y	_ N	Auxiliary controls shall be a finger-tip control type and located beside the right-hand joystick control.
Υ	_ N	An auxiliary, 2-axis joystick shall be provided for control of a snow wing.
	_ N	Integrated display and wiring for a rear vision camera shall be provided with capability
•	- · `	to view at all times without interfering with the gauge and diagnostic display.
Υ	_ N	A rear sun shade shall be provided.
	_ N	A rear defroster fan shall be provided.
	_ N	A machine security system shall be provided to electronically code keys selected by
•	_ ' '	the user to limit usage by individuals or by time parameters.
Υ	_ N	An air suspension seat shall be provided.
	_ N	A heated or both heated/ventilated seat shall be provided.
	_ N	Machine shall have integrated Cross-Slope system provided from the factory.
	_ N	Machine shall have an integrated cross slope system with cross coupling software to
'	_ ! \	prevent automatic response lag (or saw-toothing) in order to maintain consistency and
V	N	ensure accuracy.
Υ	_ N	Machine shall have a display for cross slope information that is separate from critical
		machine information such as engine RPM, ground speed and fluid temperature
		monitoring to ensure safe operation.
		CIRCLE & MOLDBOARD
Y	_ N	
		multifunction, 3-axis joysticks, as standard.
Y	_ N	
		material, replaceable and adjustable from the top of the drawbar plate via removable
		cover plates.
Y	_ N	The drawbar shall feature welded protective wear plates to prevent lift group contact
		with the primary drawbar structure.
Y	_ N	The standard moldboard shall be at least 14 ft (4267 mm) long, 27 in (686 mm) high
		and no less than 1 in (25 mm) thick.
Y	_ N	Moldboard shall have a bank slope angle capability of at least 90 degrees to both
		sides.
Y	_ N	Moldboard side-shift cylinder shall be installed on the left-hand side to prevent snow
		wing interference with the cylinder rod.
Y	_ N	Moldboard shall have no less than 16.3 in (413 mm) arc radius (blade curvature) for

		optimum productivity.
Y	N	The moldboard retention system shall have no more than two retention points located
		on the left and right side of the moldboard. The surface area shall not be less than
		50408 mm² (78.13 in²).
Y	N	Moldboard shall have a hydraulic tip control through a range of 40 degrees fore and 5
		degrees aft.
Y	N	Moldboard wear strips shall be adjusted with lock screws, providing shim-less
		adjustment capability both vertical & horizontal.
Y	N	The moldboard shall be pre-stressed during manufacturing for superior strength and
.,	A.I	durability.
Υ	N	Moldboard slide rails shall be constructed of a heat-treated, high carbon steel and
V	N.I	have replaceable bronze alloy wear inserts on top and bottom.
Υ	N	Circle shall be a single piece, rolled-ring forging with raised wear surfaces on the top
V	N.I	and bottom.
ĭ	N	Circle shall be rotated by a hydraulically driven motor (pinion gear) with a minimum
V	N	circle pinion torque capability of 44253 ft-lb (60,000 N-m). Circle teeth contact surfaces shall be induction-hardened on the front 240 degrees of
ı	IN	the circle.
V	N	Blade lift and center shift cylinders shall have replaceable bronze-alloy wear inserts in
'	'\	the ball sockets with removable shims to insure the ability to remove free play
		throughout the useful wear insert life.
Υ	N	The lift cylinder casting shall be welded to the front frame for added strength and
	' '	structural integrity.
Υ	N	The standard mounting hardware for cutting edges and end bits shall be 3/4 in (19
-		mm).
Υ	N	All 7 Link Bar positions have replaceable bushings.
Υ	N	Linkbar pin shall be separate from pin pulling mechanism for easier service and lower
_		O&O costs.
Υ	N	The draft frame pivot connection shall have a single ball stud with grease zerk. Ball
		stud shall be bolt-on, shimable and adjustable to allow for quick and easy field
		serviceable design.
Y	N	There shall be 3 sideshift anchor positions shall be provided for extended reach
		capability as standard.
Y	N	Pinion Gear shall be separate from the Pinion Shaft to allow for a quick and easy
		serviceable design.
	N	Circle outside diameter shall be no less than 61.1 in (1553 mm).
Y	N	Throat clearance with standard moldboard shall be at least 166 mm.
Y	N	There will be no more than 6 replaceable wear inserts between the circle and drawbar
		providing at least 163 in ² (1051 cm ²) of wear surface area.
Y	N	Blade lift accumulators shall be provided, protecting cutting edge and other
		components from damage from shock loads.
		FLECTRICAL
.,		ELECTRICAL MARKET AND
	N	Machine shall have 200 amp-hour, 1400 CCA heavy-duty batteries.
Y	N	Machine shall have a minimum 150-amp alternator at 24 volts provided which is
.,		brushless for increased life and durability.
	N	Six 3 x 3 in (76 x 76 mm) halogen mounted cab lights shall be provided.
	N	Starting system shall be a 24V direct electric type.
	N	LED white reversing lamps and LED stop lamps shall be provided.
Y	N	Electrical system shall have a master disconnect switch with a removable key (in
		addition to the ignition switch), accessible from the ground level.
Y	N	All core machine systems shall be electronically connected, optimizing performance
		and preventing machine damage.
Υ	N	All wiring shall be arranged and located so as to facilitate regular visual inspections

		not be in contact with hot surfaces and not routed with other services lines (e.g. fuel, oil, etc.).
Υ	N	All harnesses / cabling are secured with clipping clamps providing a gap between the
		conduit/harness and the mounting surface preventing material build-up.
Y	N	Power must remain provided upon key off to purge DEF system lines and protect
V	N.I.	components.
Υ	N	There will be 2 (3 x 3 in) (76 x 76 mm) halogen mounted on the right-hand side of car roof bar to illuminate a snow wing shall be provided.
Υ	_ N	
•		the cab shall be provided as an option.
Y	N	There will be 2 (3 x 3 in) (76 x 76 mm) halogen mid-frame toe lamps shall be provided
		to illuminate moldboard and surrounding area as an option.
Y	N	There will be 2 (3 x 3 in) (76 x 76 mm) halogen ripper work lamps shall be provided as
.,		an option.
Y	N	High and low bar headlights with front turn signals shall be provided.
Y	N N	An amber LED high-speed strobe beacon shall be provided.
Υ	N	24V to 12V converter with 25-amp capacity shall be provided.
		SERVICEABILITY
Υ	N	Machine shall have a lockable swing-out cooling fan housing featuring a latch-style
'		mechanism (shall not be of a bolted design), allowing easy access to cores. Ability to
		open/close shall be ground level accessible, eliminating need to climb on machine.
Y	N	The dip stick for checking transmission fluid shall be at ground level.
	N	Hydraulic tank site gauge shall be readable from the ground.
	N	Hydraulic tank filter shall be a cartridge style filter providing a separate filter element,
		housing, and drain valve for quick and clean servicing.
	_ N	Ability for g round level fueling shall be provided.
Y	N	Sampling ports shall be accessible from the tandem level and provide access to the
V	NI	engine, hydraulic, coolant, and fuel ports.
I	N	A two-way communication tool shall give service technicians easy access to stored diagnostic data and allow configuration of machine parameters.
Υ	N	Machine shall provide 3 points of contact on all areas of the machine, for mounting and
•		dismounting.
Y	_ N	The articulation joint shall have mechanical locking device to prevent frame articulation
		while servicing or transporting machine.
Y	N	Left and right side tandem case assemblies shall be covered with punched steel plate
.,		to provide an adequate platform for standing and walking.
	_ N	Engine oil filter shall be a 500 hour, vertical spin-on
Y	_ N	Engine primary and final fuel filters shall have 500 hour service replacement interval.
Υ	N	Engine shall have primary fuel filter with fuel water separator and electronic sensor,
V	N	quick release dual stage filter and primer pump. The centralized lube bank shall be at the articulation joint to give access to difficult
'	IN	zerks.
Y.	N	Transmission filter restriction indicator shall be displayed in the cab.
	N	Lock out Tag out capabilities shall be provided standard and increase the safety levels
		during down time. This ensures that an energy isolating device and the machine which
		are being worked on and cannot be operated
Y	N	DEF tank fill shall be located on the same side of the fuel tank fill, and be easily
V	N	accessible from ground level. A guard shall be provided to protect the machine's transmission from debris
~	INI	A GUARG CHAIL NO NEOLIGOR TO NEOLOGE THE MACHINA'S TRANSMISSION TRAM ACCESS

MINIMUM SERVICE FILL CAPACITIES

	N	Standard fuel tank capacity shall not be less than 104 gallons (394 L).
Y	N	Standard cooling system capacity shall not be less than 15.0 gallons (57.0 L).
Y	N	Standard hydraulic tank capacity shall not be less than 16.9 gallons (64.0 L).
Y	N	Standard engine oil capacity shall not be less than 7.9 gallons (30.0 L).
Υ	N	
	N	
		gallons (0.5 L).
Y	N	Standard circle drive housing capacity shall not be less than 1.8 gallons (7 L).
Y	N	Standard DEF tank capacity shall not be less than 5.8 gallons (22 L).
		SAFETY AND ENVIRONMENTAL
Y	N	A circle drive slip clutch shall be provided to reduce horizontal moldboard impact
		damage.
Y	N	Black glare-reducing paint shall be used on the front frame and engine enclosure to
		decrease glare from other equipment lights and reflection from the sun and snow.
Y	N	Operator not present monitoring system will lockout implements, shall not allow gear
		shift out of neutral, and lock parking brake if system detects operator not present for
.,		increased safety.
Υ	N	Hydraulic implement lockout shall be achieved by actuating a single electrical switch
V	NI	within the operator station.
τ	N N	An external emergency kill switch shall be provided for ground level engine shut down.
Υ	IN	Secondary, electric steering pump with redundant wiring shall be provided as a backup to the primary implement hydraulic pump.
V	N	Machine shall have laminated glass for the front windows and doors, to protect the
·	I\	operator from shattered glass. One spare laminated rear window shall be provided.
V	N	Machine shall provide dual exits allowing for emergency egress should one side
'	_ ''	become obstructed.
Υ	_ N	Electrical system shall have a master disconnect switch with a removable key and lock
	_ · `	for added safety. (in addition to the ignition switch).
Υ	N	Machine shall have a steering software system shall automatically reduce steering
		sensitivity as the ground speed increases.
Y	N	Machine shall have back-up lights and sounding alarm when reverse gears are
		selected.
Y	N	
		engine coolant, transmission, differential and fuel tank.
Υ	N	Cooling fan shall have both a shroud and rear grill for protection during service.
Y	N	Machine shall allow cab interior and exterior lights to remain on separate from ignition
		switch, for safe exit of the machine during night operation.
Y	N	Engine and transmission shall be rubber isolation mounted to reduce noise and
		vibration.
		OPTIONS
V	N	
'	N	Rear vision camera with integrated display and wiring shall be provided.
τ	N N	Blade lift accumulators shall be provided, to reduce vertical impact damage.
ĭ	IN	Drop down rear lights (stop/turn signal lights) shall be provided to span the profile of
V	NI	the machine for increased safety Two outside heated mounted mirrors shall be provided.
	N	·
	N	A engine compartment light shall be provided
	N	A seatbelt indicator sensor and light shall be provided
Y	N	Rear ripper shall have 5 ripper shank holders with three ripper shanks and 9 scarifier
V	N	shank holders with nine scarifier shanks. Ripper shall have float function Rear ripper shall have a working penetration of maximum 16.8 in (428 mm) and a
'	١٧	penetration force of at least 20,693 lb. (9386 kg).
		portoriation force of at least 20,000 ib. (0000 kg).

Y N	Front & rear fenders shall meet ISO-3457 requirements and shall not interfere with the
Y N	ability to fully open any cab/engine enclosure or service access doors. All core machine systems shall be electronically connected optimizing performance
'	and preventing machine damage.
Y N	Machine shall have no drive shafts that cross over the articulation hitch.
Y N	An integrated communication tool providing flow of vital machine data and location shall be provided. This system shall give automatic updates on machine parameters such as machine hours, machine condition, location, fault codes and alarms.
Y N	Machine shall have an engine coolant circulating heater provided.
Y N	Machine shall have a transmission solenoid valve guard provided.
YN	A front lift group shall be provided.
Y N	Henke or equivalent 12 ft All Hydraulic Postless Snow Wing Installed.
Y N	Additional hydraulic lines from the ripper valve to the back of the machine shall be
	provided. A ripper attachment accumulator, much like the accumulators on the blade lift, shall be installed to protect ripper mounted components and operator from shock load.
	ALL WHEEL DRIVE SYSTEM
Y N	A steering compensation system shall enable "powered turn" by adjusting the outside front tire speed up to 50% faster than the inside tire.
Y N	Standard with AWD, this model disengages the transmission and provides hydraulic
	power to the front wheels only.
Y N	The AWD arrangement utilizes dedicated left and right pumps for precise hydraulic
V N	control. When AWD is angusted flywhool horsenower is automatically ingressed up to an
Y N	When AWD is engaged, flywheel horsepower is automatically increased up to an additional 27 kW (37 hp) compared to the rear drive model.
Y N	All Wheel Drive system shall provide a hydrostatic front wheel drive only mode
	neutralizing the transmission for precise low-speed performance. The ground speed shall be infinitely variable between 0 and 5 mph (8 km/h)

LIST EXPLANATIONS FOR ANY "NO" ANSWERS BELOW IF CONSIDERATION IS DESIRED.

MACHINE FUEL CONSUMPTION DATA

Fuel Consumption	gal/hr
(Please do not enter in a range)	

Machine fuel consumption gal/hr figure must be supported by providing written regional fuel consumption results data from a minimum of 25 like machines. Data must be actual numbers/results retrieved from a minimum of 25 like machines via a GPSPublic or cellular data link. Data will be based on average fuel consumption of at least twenty-five like machines. Reports must indicate fuel consumption at idol and while machine is operating under a full load. Vendors must provide a copy of the data used.

WARRANTY & AVAILABILITY GUARANTEE

In order to guarantee the cost of repairs and minimize downtime for the County, all bidders shall include with their bid:

A total machine warranty, including parts and labor for required repairs, for a period of four (4) years four thousand (4,000) hours, whichever occurs first, from date of delivery. Warranty repairs will be provided during regular working hours. If the County requests that work be done outside of regular working hours, which results in overtime, the County will pay the differential between regular time and overtime wage. Lodging, meals, travel time, parts, freight and any transportation of units between County and seller will be at seller's expense.

County will provide seller with Scheduled Oil Sampling for analysis from date of delivery. Seller will provide the oil sample bottles & the expense of the processing the oil samples.

Annual machine inspections and adjustments, as prescribed in the maintance guides, shall be performed in the field (County's location), unless prior more convenient arrangements are made.

95% Guaranteed Machine Availability. Bidder guarantees that the machine shall be operable and provided for use by the County for at least 95% of the County's work year, which shall be calculated based on a 2080 hour work year. After any continuous downtime, which exceeds 40 work week hours, Seller shall provide County with a replacement machine that is comparable to the motor grader purchased under this bid proposal. If seller fails to provide County with a comparable replacement machine, County shall charge seller with an hourly assessment of \$60.00 per hour for any downtime in excess of 5% of the work year; such assessment shall be made on the anniversary date of delivery.

County shall make the machines provided for repairs and inspection upon reasonable request and notice by the successful bidder.

AFFIDAVIT AND INFORMATION REQUIRED OF BIDDERS

AFFIDAVIT OF NON-COLLUSION

I hereby swear (or affirm) under the penalty; for perjury;

- (1) That I am the bidder (if bidder is an individual), a partner in the bidder (if the bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the bidder is a corporation);
- (2) That the attached bid or bids have been arrived at by the bidder independently, and have been submitted without collusion with, and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment or services described in the invitation to bid, designed to limit independent bidding or competition;
- (3) That the contents of the bid or bids have not been communicated by the bidder or its employees or agents to any person not an employee or agent of the bidder or its surety on any bond furnished with the bid or bids, and will not be communicated to any such person prior to the official opening of the bid or bids; and \
- (4) That I have fully informed myself regarding the accuracy of the statements made in this affidavit.

SIGNED:	FIRM NAME:	
DATE:	ADDRESS:	
SUBSCRIBED AND SWORN T	ΓΟ BEFORE ME	
THISDAY OF		
NOTARY PUBLIC		
Print name:		
My commission expires:		
BIDDER'S E.I NUMBER: (Number used on Employer's Q	Quarterly Federal Tax Return, U.S. Treasury Department	

Form 941)

BIDDER'S CHECKLIST

Please be sure you have completed the following prior to submitting your bid:

- 1. Read and understood the specifications.
- 2. Enclosed all documents listed in the Bidder's Submission Requirements (p.5 of Bid Package).
- 3. Made yourself familiar with any State laws that pertain to this bid.
- 4. Asked any questions, and received answers, regarding the bid procedure, specifications, or general information.

*** <u>NOTE:</u> Any bid that is not properly addressed (including bidders phone no.), or that is delivered past the date and time indicated on the invitation to bid, will be invalid and will not be opened or considered.***